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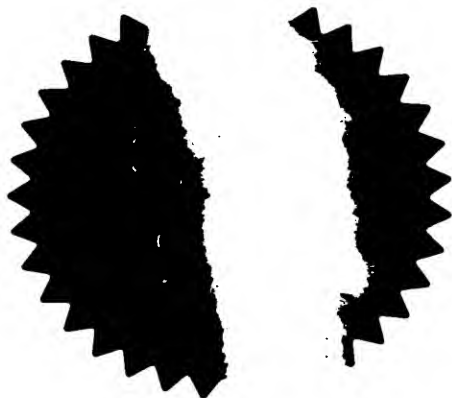
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Dated

7 March 2002



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The Patent Office

Cardiff Road
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P02745GB

1. Your reference

2. Patent application
(The Patent Office)

22 MAR 2001

0107211.5

3. Full name, address and postcode of the or each applicant (underline all surnames)

ITW Limited
St. Mark's House
St. Mark's Road
Windsor
Berkshire SL4 3BD
England

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

GB

5679 444 001

4. Title of the invention

EDGE PROTECTOR

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

LAURENCE SHAW & ASSOCIATES
5th Floor, Metropolitan House
1 Hagley Road, Edgbaston
Birmingham B16 8TG

Patents ADP number (if you know it)

13623001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
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7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
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- See note (d))

Yes

Patents Form 1/77

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Continuation sheets of this form

9

Description

4

Claim(s)

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Abstract

4

Drawing(s)

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

Request for preliminary examination and search (*Patents Form 9/77*)

Request for substantive examination (*Patents Form 10/77*)

Any other documents
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11.

I/We request the grant of a patent on the basis of this application.

Signature

Laurence Shaw

Date

22 March 2001

12. Name and daytime telephone number of person to contact in the United Kingdom

Laurence Shaw

0121 454 4962

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LS/CM/P02745GB

EDGE PROTECTOR

DESCRIPTION

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This invention relates to an edge protector, a transit package, a display means and a method of protecting the edge of an article.

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It is well established in the conveying arts that it is often necessary to protect the edges of palletised goods whilst in transit. Damage can be caused to palletised goods in a variety of ways and such damage has the effect of reducing profits for the retailer, transporter and/or manufacturer. Consequently, so-called edge protectors are often used to protect the edges of palletised goods to avoid, or at least reduce, such damage. Examples of known edge protectors are disclosed in US 4877673, US 4742916 and US

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3049260.

20

It is further known that certain positions within a shop, such as a supermarket, are more likely to lead to a purchase by a consumer. For example, promotional items or goods on special offer are often displayed at the ends of aisles. Such displays tend to elicit a greater deal of attention from both casual observers and active shoppers, thereby hopefully leading to a purchase.

Aisle-end displays often require goods to be located within dedicated display means, such as large containers, often large cardboard boxes. These large containers are normally decorated with advertising literature regarding the product or other promotional information.

5

In use, a retailer will either accept a delivery of the goods to be promoted and an associated display means which will be assembled and located with the goods therein at the requisite site in the store or, alternatively, the manufacturer will send the goods to the retailer, already packaged in the display means and ready to be displayed.

10

These known display means are expensive and, if transported whilst laden, that is already containing the product, they are liable to be damaged on route. Such damage will obviously be expensive for the parties involved, as well as ruining the appearance of the display means within the store and/or the so-packaged goods.

15

It is an object of the present invention to provide an improved, robust edge protector which may be used to provide display means for goods and which can be manufactured cheaply and thereby provide savings of both material and capital to manufacturers and retailers.

20

According to the first aspect of the invention there is provided an edge protector for protecting the edge of an article comprising a pair of non-parallel arms which, in use, do not contact any part of the article, and a pair of contacting arms for contacting or at

least being situated adjacent the article one of each being connected to one of each of said non-parallel arms and being situated in respective parallel relations therewith.

A second aspect of the invention provides a transit package comprising a base
5 portion, such as a pallet, having located thereon an article to be transported and a plurality of edge protectors as previously defined, each edge protector being located at an edge of the article and being retained in place at that edge by retaining means such as shrink-wrap, rope, string, straps and so on.

10 There is also provided, in a further aspect of the invention, a display means comprising a set of edge-defining members and a set of wall members, each wall member having a peripheral portion thereof located and retained within a recess of an edge-defining member, the recess being defined by a pair of generally parallel arms, only one of which being located, in use, adjacent the goods to be displayed, the other
15 being distant, in use, from said goods and defining an air gap adjacent the vertex of the goods.

Preferably, the goods located within the display means are piled as a regular stack of goods.

20 Preferably there is an equal number in the set of wall members and set of edge-defining members.

A fourth aspect of the invention provides a method of protecting the edge of an article comprising locating and retaining, for example during transport or storage or display, at that edge an edge protector comprising a pair of non-parallel arms which do not contact any part of the article, and a pair of contacting arms for contacting or at least
5 being adjacent the article, one of each being connected to one of each of said non-parallel arms and being located in parallel relations with the respective non-parallel arms.

The article may comprise a stack or pile of goods.

10

The edge protectors or edge-defining members are preferably made from a durable material. They may be constructed from a plastics material such as polyvinyl chloride or polyethylene. The plastics material may be coloured or have another decorative finish. Alternatively, the edge protectors may be made from materials derived
15 from wood; hardboard, plasticised cardboard and so on, or composite materials such as material derived from a mixture of wood or paper pulp and a rubber material.

In an embodiment of the invention, the edge protector or edge-defining member may comprise a recess into which reinforcement means may be insertable.

20

In order that the invention may be better understood it will now be described by way of example and with reference to the accompanying drawings, in which:

Figure 1 shows a plan view of an edge-protector;

Figure 2 shows a plan view of the edge protector of Figure 1 together with wall members;

5

Figure 3 is a perspective view of the edge protector and wall members of Figure 2; and

Figure 4 is a plan view of a second embodiment of edge protector.

10

Referring firstly to Figure 1, there is shown a plan view of an edge protector 1 which comprises a plurality of interconnected wall portions 2, 4, 6, 8, 10, 12.

The edge protector 1 comprises a pair of perpendicular arms 2, 4 connected to one another at a vertex 3 extending the entire length of the protector 1, into the plane of the paper, as viewed. At the distal edges 5 of each perpendicular arm 2, 4 there is connected an arm portion 6, 8, each of which is located parallel to the respective perpendicular arms 2, 4. Each arm portion 6, 8 is connected to a parallel arm 10, 12, the gap or recess 14 therebetween being tapered such that it narrows from the point of connection of each arm portion 6, 8 to its respective parallel arm 10, 12.

The whole of each half of the edge protector 1 (perpendicular arm 2, arm portion 6, parallel arm 10) has a generally S-shaped profile, in plan.

The edge protector 1 can be made from a plastics material such as polyvinyl chloride or polyethylene or from a wood or paper derived substance, hardboard, plasticised cardboard or other materials which would provide a rigid, durable and damage resistant protector 1.

5

In use, the edge protector may be simply presented to the edge of an article to be protected, such as a stack of goods, such that the inner surface 20 of each parallel arm 10, 12 abuts or is at least adjacent the article. As seen in Figure 2, where the edge or corner of the article 50 is represented by a dotted line, the vertex 51 of the article is not
10 adjacent any of the wall portions of the protector 1.

The edge protector 1 may be retained in position by any known means. For example, the article may be shrink-wrapped in plastics sheet once the edge protectors 1 have been located on the article. Similarly, straps, rope, string, adhesives and so on may
15 be used.

As previously mentioned, once the edge protector 1 is installed on an article there is an air gap 25 between the inner surface of the vertex 3 and the vertex 51 of the article. The air gap 25 provides a cushion to the article to protect it any impact in that
20 region. Although it is preferable that the protector 1 should be constructed from a rigid material, the configuration of the wall portions 2, 4, 6, 8, 10, 12 provides a degree of resilience. Thus, during an impact incident, the portions, for example 2, 6 and 10, may be forced together, absorbing at least some of the energy of the impacting force. The

portions 2, 6, 10, subsequent to the removal of the force or at least to its' reduction in magnitude, can then return to their original configuration.

If further corner protection is required, one may locate in the air gap 25 a
5 conventional perpendicular edge protector 30, as shown in Figure 2. Such further protection 30 will not hinder the resilient operation during an impact incident as discussed above, but will afford the corners 50 of an article further protection.

As also shown in Figures 2 and 3, the edge protector 1 of the invention can be
10 used to provide a display case 40, for the display of goods or other articles. As can be seen, sheet material 42 can be held in the gap or recess 14 defined by each arm portion 6, 8 and the respective parallel arm 10, 12, to which it is connected. The taper of the recess 14 helps to retain the sheet material 42. In a preferred embodiment, the recess 14 tapers from 3.5 mm to 2 mm, the smallest extent being of a size similar to or slightly
15 smaller than the thickness of the sheet material 42. Such a configuration enables the arm portions 6, 8 and their respective parallel arms 10, 12 to provide a clamping effect on any so-sandwiched sheet material 42.

In order to provide a display case 40, an edge-protector 1 is located at each
20 corner of an article or stack of articles and sheet material 42 is located and retained within the recesses 14, each sheet 42 being held in a recess 14 of two edge-protectors 1.

One, some or all of the walls defined by the sheet material 42 may comprise apertures through which the displayed goods or articles may be accessed. The display case 40 may also be provided with a lid member to prevent access to the goods or articles from the top of the case 40.

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In the above discussion, the focus has been on the protection of rectangular articles or the display of rectangular display cases. However, it is permissible to provide an edge protector to protect the corner of a non-rectangular article, such as a triangular article, or an article of other polygonal form for example.

10

With reference to Figure 4 there is shown an edge protector 101 for the protection of triangular articles. In such an embodiment, the wall portions 102, 104, 106, 108, 110, 112 of each respective half of the protector 101 are located parallel to one another. Each half of the edge protector 101 (102, 106, 110; 104, 108, 112) is angled with respect to one another to match the angle of the corner of the article. Obviously, by providing a degree of flexibility to the edge protector 101, by careful consideration of the material of construction, the angle defined by the edge protector 101 need not be exactly that of the article.

15

20

It will be readily seen by the skilled addressee, that a triangular display case using the edge protector 101 of Figure 4, can be readily constructed using the method discussed above.

The walls 42 of the display case may be made from any suitable material, cardboard, hardboard, plastics sheet and so on. The sheet material 42 and/or edge-protectors 1 may have thereon advertising, promotional or other information, pictures and so on. Alternatively, the sheet material 42 may be opaque or transparent, coloured or
5 clear plastics or paper material, facilitating back-lighting from the interior of the display case if so desired.

CLAIMS

1. An edge protector for protecting the edge of an article comprising a pair of non-parallel arms which, in use, do not contact any part of the article, and a pair of contacting arms for contacting or at least being situated adjacent the article, one of
5 each contacting arms being connected to one of each of said non-parallel arms and being situated in respective parallel relations therewith.

2. An edge protector according to Claim 1 fabricated from a durable material.

10

3. An edge protector according to Claim 2, wherein the durable material is a plastics material, such as polyvinyl chloride or polyethylene.

4. An edge protector according to Claim 2, wherein the durable material is derived
15 from wood, such as hardboard or plasticised cardboard.

5. An edge protector according to Claim 2, wherein the durable material is derived from a composite material, such as material derived from a mixture of wood or paper pulp and a rubber material.

20

6. An edge protector according to any preceding Claim further provided with indicia.

7. An edge protector according to any preceding Claim further comprising a recess into which reinforcement means is insertable.

8. A transit package comprising a base portion having located thereon an article to be transported and a plurality of edge protectors as claimed in any of Claims 1 to 7,
5 each edge protector being located at an edge of the article and being retained in place at that edge by retaining means

9. A transit package according to Claim 8, wherein the base portion is a pallet.

10

10. A transit package according to Claim 8 or 9, wherein said retaining means comprises one or more of shrink-wrap, rope, string or straps.

11. A display means comprising a set of edge-defining members and a set of wall
15 members, each wall member having a peripheral portion thereof located and retained within a recess of an edge-defining member, the recess being defined by a pair of generally parallel arms, only one of which arms being located, in use, adjacent the goods to be displayed, the other being distant, in use, from said goods and defining an air gap adjacent the vertex of the goods.

20

12. A display means according to Claim 11 further comprising an equal number in the set of wall members and set of edge-defining members.

13. A display means according to Claim 11 or 12, wherein each recess tapers so as to provide a clamping action on each peripheral portion of the wall members located therein.

5 14. A display means according to Claim 11, 12 or 13, wherein each edge-defining member comprises a recess into which reinforcement means is insertable.

15. A display means according to any of Claims 11 to 14, wherein each wall member and/or each edge-defining member comprises indicia.

10

16. A method of protecting the edge of an article comprising locating and retaining, for example during transport, storage or display, at that edge an edge protector comprising a pair of non-parallel arms which do not contact any part of the article, and a pair of contacting arms for contacting or at least being adjacent the article, one
15 of each being connected to one of each of said non-parallel arms and being located in parallel relations with the respective non-parallel arms.

17. An edge protector substantially as hereinbefore described and with reference to the accompanying drawings.

20

18. A transit package substantially as hereinbefore described and with reference to the accompanying drawings.

19. A display means substantially as hereinbefore described and with reference to Figure 3 of the drawings.

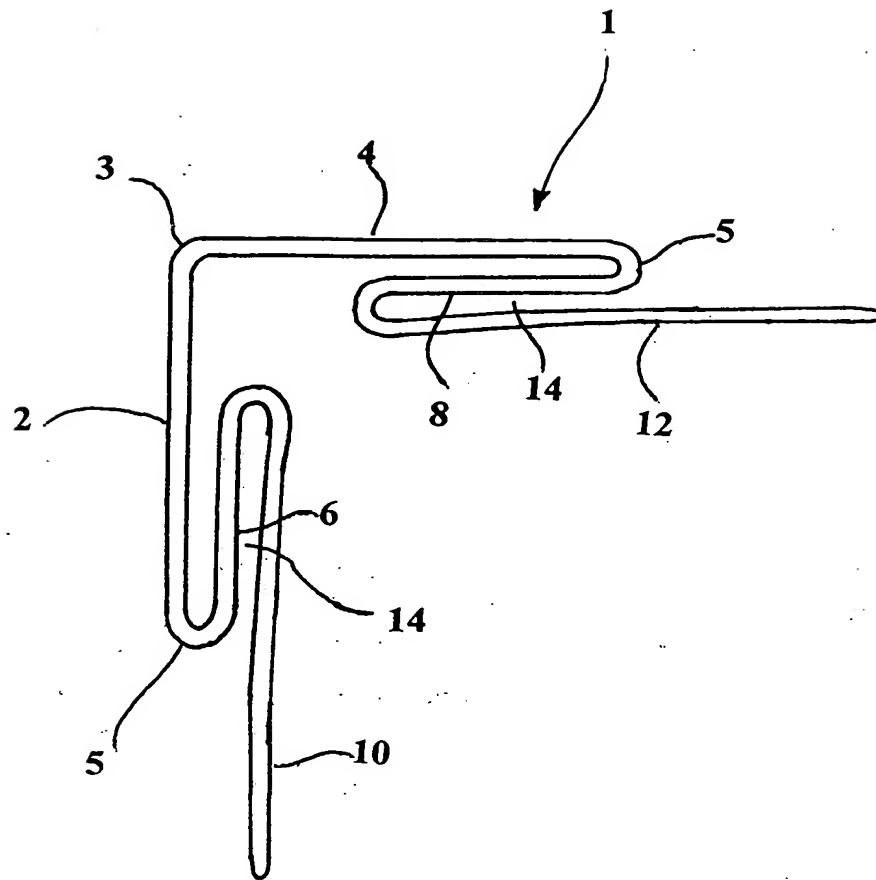
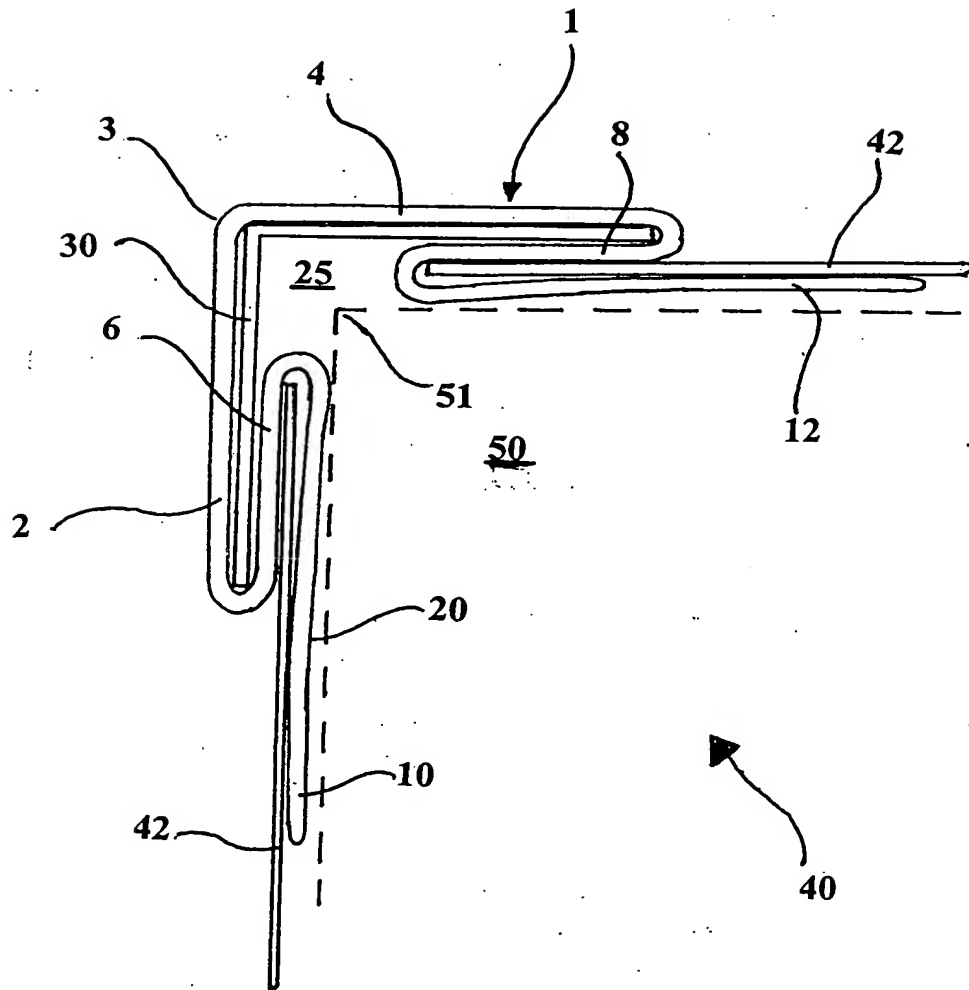


Figure 1

**Figure 2**

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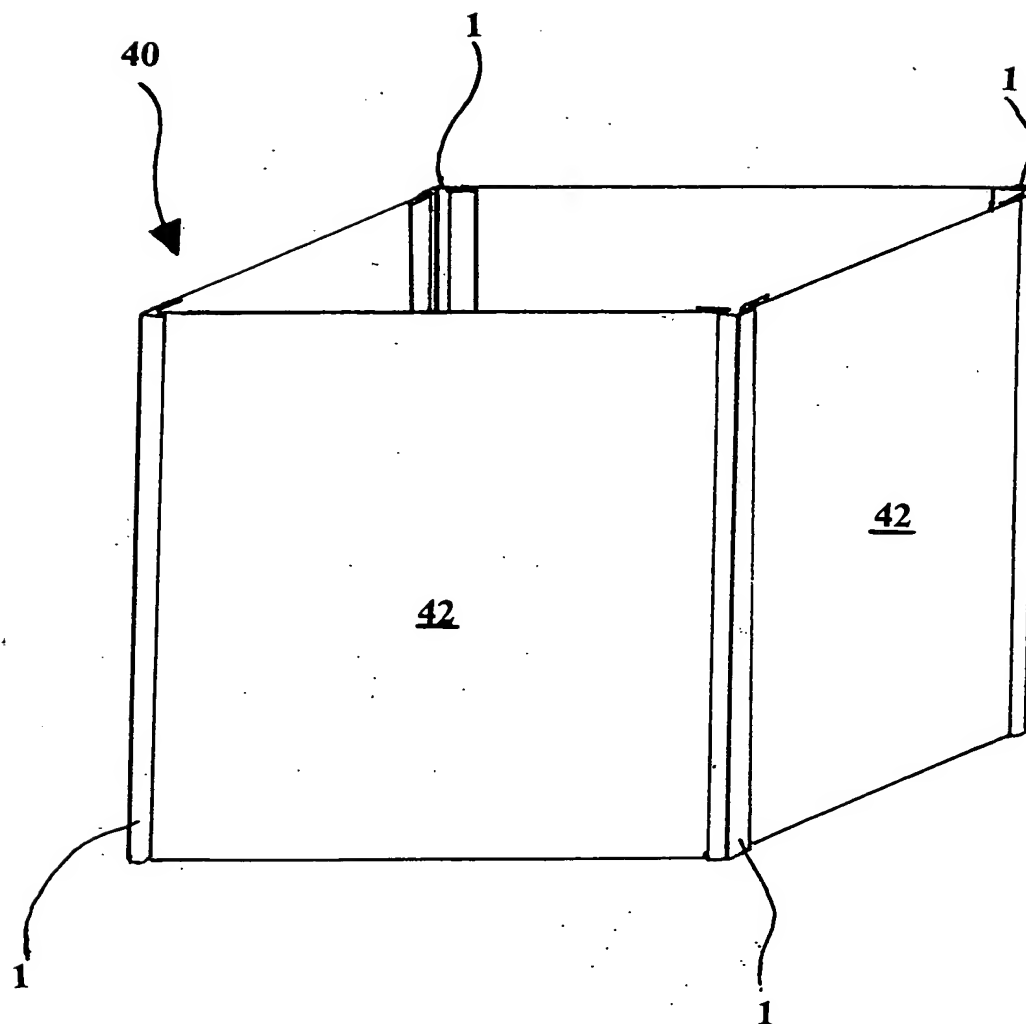


Figure 3

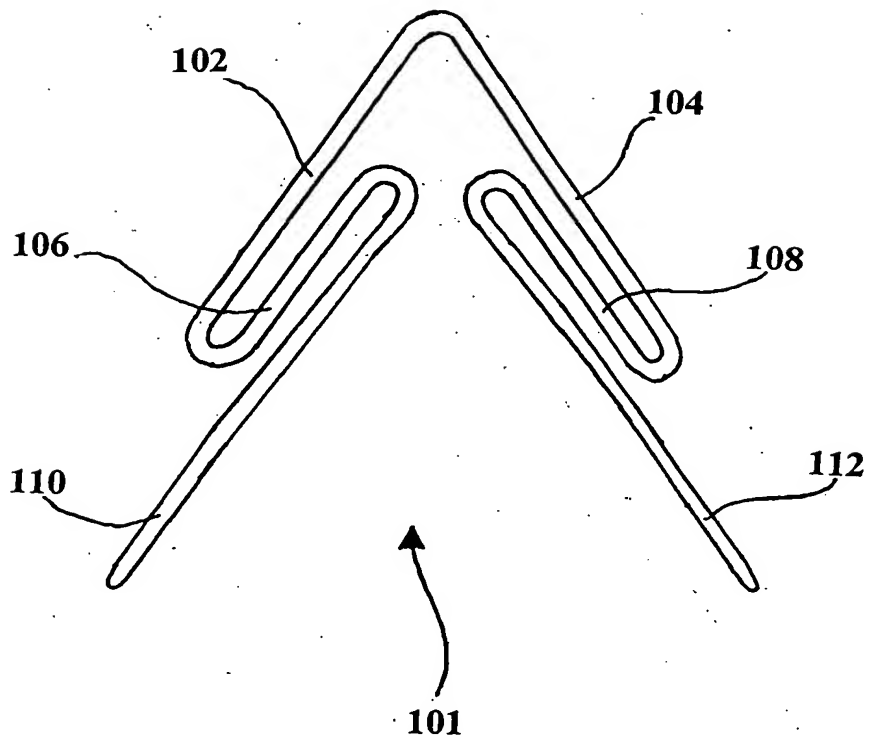


Figure 4